What is claimed is:

1. A method for transmitting power line communications ("PLC") signals among a plurality of PLC transceiver nodes in a PLC system comprising:

at at least one of the PLC nodes, establishing a timing controlled PLC data signal communications frame, wherein the frame includes synchronization data and has a predetermined duration;

transmitting the frame onto the PLC system at predetermined intervals; and

transmitting PLC signals among the PLC nodes in accordance with the timing frame.

2. A method for transmitting power line communications ("PLC") signals in a PLC system including a head-end PLC transceiver coupled to a plurality of remote PLC transceivers over utility electric power conveying media, the method comprising:

establishing a timing controlled PLC data signal communications frame having a predetermined duration, wherein the timing frame includes a downstream time slot assigned for transmission of PLC data signals from the head-end to at least of one of the remotes and at least one upstream time slot assigned for transmission of PLC data signals from at least one of the remotes to the head-end;

selectively allocating a first portion of the duration of the timing frame to the downstream time slot and a second portion of the duration to the at least one upstream time slot;

transmitting the frame onto the PLC system at predetermined intervals; and

transmitting PLC signals between the head-end and at least one of the remotes in accordance with the timing frame.

3. The method of claim 2, wherein the PLC system is a frequency division multiplexed system.

4. The method of claim 3, wherein the frequency division multiplexed system is an orthogonal frequency division multiplexed ("OFDM") system.

5. The method of claim 4, wherein the head-end transmits an OFDM PLC signal simultaneously to a plurality of the remotes, wherein the OFDM signal contains an OFDM symbol for each of the remotes, each of the OFDM symbols contain at least one predetermined tone and the at least one tone is different for each of the remotes.

6. The method of claim 2, wherein the first portion is not equal to the second portion.

7. The method of claim 2, wherein the selectively allocating the duration of the timing frame includes dynamically changing the size of at least one of the first and second portions.

8. The method of claim 2, wherein the selectively allocating the duration of the timing frame includes determining an optimal size for at least one of the first and second portions based on at least one of upstream and downstream bandwidth utilization data.

9. The method of claim 2, wherein the transmitting further comprises:

transmitting from the head-end a downstream orthogonal frequency division multiplexed ("OFDM") data signal having a first number of carriers and a first symbol length,

transmitting from at least one of the remotes an upstream OFDM data signal having a second number of carriers and a second symbol length, wherein the first

number of carriers is greater than the second number of carriers and the first symbol length is longer than the second symbol length.

10. The method of claim 9, wherein a plurality of the remotes transmits OFDM data signals and wherein the first symbol length exceeds the sum of the second symbol lengths for the OFDM signals transmitted by the respective plurality of the remotes.

11. The method of claim 9, wherein the head-end can only decode an OFDM data signal having a number of carriers and a symbol length substantially different from the first number of carriers and the first symbol length, respectively, and

wherein at least one of the remotes can only decode an OFDM data signal having a number of carriers and a symbol length substantially different from the second number of carriers and the second symbol length, respectively.

12. The method of claim 2, wherein the timing frame is a time division multiplexed PLC data signal communications frame.

13. A system for transmitting power line communications ("PLC") signals comprising:

a head-end PLC transceiver coupled to a plurality of remote PLC transceivers over a PLC network, wherein the head-end transmits downstream data signals for reception at at least one of the remotes and at least one of the remotes transmits upstream data signals for reception at the head-end in accordance with a timing controlled PLC data signal communications frame having a predetermined duration,

wherein the timing frame includes a downstream time slot assigned for the downstream data signals and at least one upstream time slot assigned for the upstream data signals, wherein the downstream time slot occupies a first portion of the duration of the timing frame and the upstream time slot occupies a second portion of the duration of

the timing frame and wherein the lengths of the first and second portions are selectable, and

wherein the head-end transmits the frame onto the PLC system at predetermined intervals.

14. The system of claim 13, wherein the head-end and the remotes operate in accordance with a frequency division multiplexed PLC system configuration.

15. The system of claim 14, wherein the frequency division multiplexed system is an orthogonal frequency division multiplexed system.

16. The system of claim 15, wherein the head-end transmits an OFDM PLC signal simultaneously to a plurality of the remotes, wherein the OFDM signal contains an OFDM symbol for each of the remotes, each of the OFDM symbols contain at least one predetermined tone and the at least one tone is different for each of the remotes.

17. The system of claim 13, wherein the first portion is not equal to the second portion.

18. The system of claim 13, wherein the size of at least one of the first and second portions is dynamically adjustable.

19. The system of claim 13, wherein the size of at least one of the first and second portions is optimized based on upstream and downstream bandwidth utilization data.

20. The system of claim 13, wherein the head-end transmits a downstream orthogonal frequency division multiplexed ("OFDM") data signal having a first number of carriers and a first symbol length, and wherein at least one of the remotes transmits an upstream OFDM data signal having a second number of carriers and a second symbol

length, wherein the first number of carriers is greater than the second number of carriers and the first symbol length is longer than the second symbol length.

21. The system of claim 20, wherein a plurality of the remotes transmits OFDM data signals and wherein the first symbol length exceeds the sum of the second symbol lengths for the OFDM signals transmitted by the respective plurality of the remotes.

22. The system of claim 20, wherein the head-end can only decode an OFDM data signal having a number of carriers and a symbol length substantially different from the first number of carriers and the first symbol length, respectively, and wherein at least one of the remotes can only decode an OFDM data signal having a number of carriers and a symbol length substantially different from the second number of carriers and the second symbol length, respectively.

23. A power line communications ("PLC") head end transceiver comprising:

a PLC transmitter module for generating and transmitting downstream PLC signals to at least one of a plurality of remote PLC transceivers coupled to the head-end over a PLC network;

a PLC receiver module for receiving upstream PLC signals transmitted from at least one of the remotes;

wherein the PLC transmitter module computes a timing controlled PLC data signal communications frame having a predetermined duration, wherein the timing frame includes a downstream time slot assigned for transmission of PLC data signals from the head-end to at least of one of the remotes and at least one upstream time slot assigned for transmission of PLC data signals from at least one of the remotes to the head-end, wherein a first portion of the duration of the timing frame is allocated to the

downstream time slot and a second portion of the duration is allocated to the at least one upstream time slot.